DEPARTMENT OF ENVIRONMENTAL RESOURCES MANAGEMENT

UPDATED 2/12/99

BEST MANAGEMENT PRACTICES FOR AIRCRAFT MAINTENANCE/REPAIR FACILITIES AND MACHINE SHOPS

Best management practices can be thought of as using "good housekeeping" practices. Listed below are several procedures to operate your facility and minimize the risk of contamination to the environment.

1. A waste oil and waste fluid collection area must be set up. This area must have a bermed, impervious surface and be under cover. Wastes are to be stored in clearly marked containers that are in good condition. Leaking containers must be replaced. Strippers, chlorinated solvents and flammable solvents are hazardous and must be stored separately. Coolant must also be stored separately. All waste must be segregated. Therefore, no mixing of waste streams should be done.

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   a. Waste oil is normally recycled and taken by a permitted waste oil hauler. A list of waste oil haulers is available upon request. All containers must be labeled with the words "waste oil" according to State regulations.

   b. Chlorinated solvents, strippers of flammable solvents may be recycled using a solvent recycler (with approval from DERM) or disposed of as hazardous waste. This waste must be shipped by a permitted hazardous waste hauler to an approved EPA treatment or disposal facility. A list of hazardous waste haulers is available upon request.

   c. Waste antifreeze/coolant must be collected and shipped by an approved hazardous waste hauler. This waste may also by recycled with a recycling service or on-site equipment.

   d. Used oil filters must be collected and handled by a permitted hauler or recycler. All fluids must be drained from filters prior to disposal. These filters cannot be disposed of in the trash/dumpsters unless a waste profile indicates they meet landfill standards and approval is granted from this department. A list of oil filter recycler is available upon request.

e. Rags used in cleaning processes and contaminated with hazardous materials (i.e.. solvents, inks, oil & grease) must be washed by an approved rag service or handled as a hazardous waste unless proven otherwise by a hazardous waste profile.

2. Parts washing may not be done over open ground. Parts washing must be done in a container or parts washer. The parts can be rinsed or air dried over the parts cleaning container. Absolutely no fluid, not even rinse water, is to be disposed of to open ground, storm drains, septic tanks or any drainage structure. Research has shown that this rinse water contains solvents, metals and oil and grease. Dirty parts washing fluid may be recycled or disposed of properly as previously discussed above. A permitted part washing contractor who brings new fluid and takes away the sludge and dirty fluid is the preferred disposal method.

3. Paint thinners, solvents, spent solvents and solvent mixtures are hazardous waste and must be properly disposed of by a permitted hazardous waste transporter (or the solvent can be recycled by a recycling unit or distilled and recycled using a solvent recovery unit at your facility. Recycle and distillation units must be approved by this Department prior to implementation and use.

   a. If the waste solvent is recycled by the facility generating the waste, the solvent stillbottoms must be collected and treated as hazardous waste, unless proven otherwise.

   b. If the waste solvent is recycled by a permitted solvent recycler, receipts must be obtained from the recycler and maintained at your facility.

   c. Storage containers must be compatible with the hazardous waste stored in them and must meet DOT standards. Each container must have a proper hazardous waste label marked with the first date of accumulation, contents and facility name, address and EPA number.

   d. In all cases when a RCRA hazardous waste is produced, a permitted hazardous waste transporter must be used to transport the waste to a federally approved hazardous waste disposal facility. Hazardous waste manifests must be kept at your facility available for review. The facility generating the hazardous waste is required to obtain an Environmental Protection Agency identification number by contacting:

Notification Coordinator
Bureau of Waste Planning and Regulation
Florida Department of Environmental Protection
Twin Towers Office Building, Room 421
2600 Blair Stone Road
Tallahassee, Florida 32399-2400
(904) 488-4805

4. Acids and plating wastes are regulated by the Industrial Pretreatment (IWP) program. For further information as to disposal and nature of generated waste refer to the IWP program at (305)372-6500.

5. Paint stripping must be conducted so that the waste does not enter storm drains, surface waters or sanitary sewers. Collect scrapings, paint removal sludges and all other wastes from paint work and dispose of properly. Paint wastes are generally classified as hazardous waste. Therefore, they must be disposed of as hazardous waste as described above.

6. Wastewater generated from crack detection processes must be properly disposed off. Crack detection for both ferrous and non-ferrous materials generate a large amount of wastewater. This wastewater can be discharged (if it meets Dade county sewer discharge standards) to sanitary sewers by treating it with an approved pretreatment system. Evaporation units are also available to reduce the amount of wastewater. Evaporation units and pretreatment systems must be approved by this Department prior to installation and use. Additionally, the evaporation unit will require an Air permit from this Department. All sludges and/or waste filters generated from these processes must be profiled for determination of proper disposal.

7. Waste sand or beads generated from blasting activities must be profiled to determine proper disposal method. If waste is to be disposed of in the Dade county landfill it must be profiled on a yearly basis to assure it meets landfill standards.

8. Facilities generating 10 or more used mercury containing lamps [fluorescent and high intensity discharge (HID)] per month must be recycled with an approved hauler. Do not break or crush lamps intentionally because mercury may be released. If lamps are not recycled, a hazardous waste profile must be performed in order to determine proper disposal method.

9. Receipts of all waste and/or wastewater disposal must be maintained on site and be made available for inspection by DERM. All industrial and hazardous waste manifests must be kept on site for a minimum of three (3) years.

A list of DERM permitted waste haulers is available upon request.

10. Special attention should be paid to storm drain locations (also known as storm sewer). Storm drains are designed to help alleviate rainwater build up. These drains are not connected to the sanitary sewer system but rather assist in allowing rainwater to drain into the ground and groundwater. Therefore, industrial discharges should not be allowed to drain into these storm drains. Areas nearby storm drains must be kept free of oil, grease and other contaminants so that rainwater does not wash these materials into the storm drains.

11. All facilities must operate with no discharge of oil, solvent contaminated wastewater or runoff, or other hazardous or industrial material onto the ground, soakage pits, storm drains or septic tanks. Any discharge into sanitary sewers must meet sewer standards.

12. Storage

    a. For facilities storing large amounts of chemicals and/or fuels:

        1. All chemical and fuel storage must have secondary containment. This containment area should be able to hold 110% of the volume of the largest single tank to be stored in this area.

        2. Chemical storage areas must be on an impervious surface with secondary containment or a bermed and covered area away from drainage structures (e.g. floor drains or storm drains).

Pollution Prevention Suggestions

1. Waste fluids should be segregated and kept separately. This prevents mixing incompatible substances and prevents contamination of a non-hazardous waste by a hazardous waste. This also allows them each to be recycled or disposed of appropriately and reduces disposal costs.

2. Recycling of waste fluids is a preferred option. This can either be done on-site or shipped to an approved recycler off-site. Units for filtering, adding the necessary additives and restoring coolant are available. (Installation of such units must be approved by DERM and the Fire Dept.)

3. For small to medium facilities, it may be more economical to have a parts washer contractor replenish the parts cleaner and remove the spent solution, than to install a solvent recycling still.

4. For large facilities, on-site solvent recycling stills are usually very economical with payback periods of only 2-3 years.

5. Alternative cleaners are available (e.g. special water based cleaners) that replace traditional solvent. These can be used in a variety of system including dip tanks, power washers with jet sprays, or ultrasonic immersion tanks.

6. Parts cleaning can be done in 3 stages
    1. Preclean to remove heavier dirt (e.g. with a wire brush)
    2. Sink #1 as an initial sink to do heavier cleaning. Recycled only after full use.
    3. Sink #2 as a final sink for precision cleaning (used as make-up for sink #1).

7. Parts can be removed slowly from solvent sinks and allowed to sit a few minutes on "drip racks" which drain back to the sink. Rollaway covers that are kept closed when not in use can be used on the sink. Sludges should be removed often and properly disposed, but the solution itself can be used many times.

8. Stop leaks quickly. Drip pans can be placed to catch leaks. Spot mopping with a bucket (and proper disposal of the water) can be performed. Floor cleaning machines are available that will spray a cleaning solution, scrub with brushed, and vacuum up the solution (to be disposed of properly). Absorbent pads are available that allow the oil to be "squeezed out" into a waste oil drum. The pads can be reused several times.

9. Scrap parts can be sold to metal recyclers.

Questions will be answered by the Industrial Facilities Section staff at (305)372-6600.

Any questions concerning pollution prevention please call the Pollution Prevention Program at (305)372-6784.